

REMARKS

Claims 1-20 are pending in the application. In an Office Action mailed June 9, 2005, Claims 1-20 were rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential steps. Claims 1-20 were also rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,572,804 to Randall et al.

With respect to the rejections under 35 U.S.C. §112, Applicants assert that the present invention does not require the step of drying the particles after addition of the second resin within the process for making engineered lignocellulosic-based panels (see page 5, line 35 to page 7, line 16). Applicants assert that Claims 1 and 11 do not omit any essential steps. Accordingly, Applicants assert that Claims 1 and 11 are in allowable form. Claims 2-10 depend from Claim 1, and Claims 12-20 depend from Claim 11. These claims are also believed allowable as they further define their respective base claims. Notice to that effect is requested.

Claims 1-20 were also rejected under 35 U.S.C. §102(e) as being anticipated by Randall et al. The Patent Office alleges that Randall et al. disclose adding a phenol-formaldehyde resin having low nitrogen content, as well as the other elements of independent Claims 1 and 11.

However, U.S. Patent No. 6,572,804 discloses a process in which green particles are treated with a phenol-formaldehyde resin and dried in the presence of methylol urea. The methylol urea is prepared by first adding urea to a PF resin and then adding formaldehyde (column 5, line 21-22). Urea is a compound that contains 46.64% nitrogen by mass. In contrast, Claims 1 and 11 require a low-nitrogen content, high molecular weight, phenol-formaldehyde resin in an amount from about 1 to 25 weight percent based on the total weight of the particles. In Claim 1, the first resin is phenol-formaldehyde resin having a nitrogen content of from 0 to 3%. In Claim 11, the first resin is phenol-formaldehyde resin having a nitrogen content of from 0 to 1%.

It is quite common for phenol-formaldehyde resins used in the oriented strand board industry to contain urea levels of 18-30% based on the ratio of urea mass to total resin solids mass. Thus, conventional phenol-formaldehyde resins for the oriented strand board industry have nitrogen contents of about 8.395-13.99%. The high levels of urea are used in order to minimize the level of unreacted formaldehyde in these resins. Since US Patent 6,572,804 states that their phenol-formaldehyde resin with methylol urea can be used before drying without creating an emission of free-formaldehyde (column 5, lines 26-29), then there is no reason to assume that their invention utilizes exceptionally low urea levels.

US Patent 6,572,804 does not explicitly state how much methylol urea is present in their composition, but what is indicative is Table 2 in Example 2, which provides an array of phenol-formaldehyde resins for this invention which have all been loaded with urea. With the exception of the control resin, #5, additional formaldehyde has also been added to all of the resins (subsequent to the urea addition). All of these resins were then heated to 151 C for a period of 15 minutes and the ammonia emission was measured. Ammonia is a compound that contains nitrogen at a level of 82.35%. Since urea or methylol urea are the only compounds in these resins that contains nitrogen, it is clear that all of the ammonia is being evolved by decomposition of the urea. The results of the emission test shown in Table 2 show that the concentration of ammonia in the resin after heating was 0.0248% and 0.0186% (duplicate run). Thus, it appears that the resins used in Example 2 of US Patent 6,572,804 have a nitrogen content of about 5.6%, which would correspond to a urea concentration of about 12.0%. Again, Claims 1 and 11 of the present invention require a low-nitrogen content, high molecular weight, phenol-formaldehyde resin in an amount from about 1 to 25 weight percent based on the total weight of the particles. Claim 1 requires that the first resin is phenol-formaldehyde resin having a nitrogen content of from 0 to 3%. Claim 11, the first resin is phenol-formaldehyde resin having a nitrogen content of from 0 to 1%. Accordingly, Applicants assert that Claims 1 and 11 are not anticipated by Randall et al. and further assert that the rejection under 35 U.S.C. §102(e) is improper and should be withdrawn. Claims 2-10 depend from Claim 1, and Claims 12-20 depend from Claim 11. These claims are also believed allowable as they further define their respective base claims. Notice to that effect is requested.

CONCLUSION

In light of the foregoing remarks, Applicants respectfully submit that the present application is in condition for allowance. Applicants respectfully request entry, reconsideration, and allowance of all claims. The Examiner is invited to telephone the undersigned if there are any remaining issues.

RESPECTFULLY SUBMITTED,

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